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AUTHOR Corcoran, Farrel; Schneider, Michael
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ABSTRACT

Approximately 100 questionnaires were distributed to parents of children in primary grades in a study that explored social correlates of the interpretative abilities of very young children in the assessment of televised narratives. The questionnaires contained over 50 questions on home use of television. The second phase of the study involved having 44 preschool children view preconstructed videotapes and answer comprehension tests. Results failed to show a significant relationship between ages of children and their understanding of characters' emotions. The study also failed to show a significant relationship between age and the ability to understand motivations, except when motives were widely separated in the narrative from their corresponding actions. No significant patterns of correlations were uncovered between the amount of television viewed by children and their performance on the six texts examined. However, the analysis did reveal a relatively strong and important pattern of negative correlations between the amount of television viewed by parents and their children's comprehension levels. The more the parents viewed television, the lower their children's comprehension levels. (HOD)

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EXPLORING CHILDRENS' COMPREHENSION OF TELEVISED DRAMA

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Farrel Corcoran

&

Michael Schneider

Northern Illinois University

CS 504279

ABSTRACT

One important recent trend in mass communication research is the focus on children's ability to comprehend various forms of televised drama. This study sought to explore social correlates of the interpretative abilities of very young children in the assessment of televised narratives. In this study forty-four pre-school children viewed preconstructed videotapes and answered comprehension tests. Their parents responded to a questionnaire concerning the child's background and experience with media. Several hypotheses were tested concerning the correlates of children's comprehension skills. Though most were not confirmed, the study uncovered important correlations concerning the amount of TV viewing by parents and the children's TV comprehension -- the correlations were negative indicating that the more the parents viewed TV the worse their children performed on comprehension tests.

How much of television programming do young children comprehend? What is the nature of their interaction with the structural characteristics of television narrative, especially when narratives have been designed for adult viewers? These questions are appearing with increasing frequency on research agendas[1] as the realization spreads that children in many countries begin to pay real attention to television at the age of three and that very young children commonly view adult programs.[2]

Many of the suggested answers direct scholarly attention to the link between the impact of television on children and their interaction with the form, as well as the content of actual programming. Watt and Krull,[3] for instance, suggest that cognitive efforts involved in decoding content-free complexity in the form of a television program can result in emotional arousal and increased levels of aggressiveness. Disambiguating complexity in content is also relevant to comprehending the message of a program. Since children tend to model characters who are perceived to be "good"[4] they must be able to wade through a deluge of specific bits of information, some of which are incidental to the message and some of which are essential, in order to perceive a character's "goodness" or "badness." Children are often presented with the task of synthesizing an array of cues as to the motivations and feelings of fictional characters and the consequences of their actions, and these cues are often separated from the scene to which they are related. This increases the probability that they will not interpret a scene in terms of its accompanying motives and consequences, as adults do. As a result, depicted aggressive behavior stands alone as a model.[5]

Urgent questions about how much children learn from television and how that learning is cognitively structured, have relevance both to televised instruction and to the wider context of general television viewing. This is especially true if we are to make sense of the seeming contradiction that young children understand so little of what they view and yet spend such a large amount of time in front of the screen. Many sources suggest that prior to nine years, children are unable fully to "read" television, that is, are immature from an information processing standpoint. Freidlander, Wetstone and Scott,[6] for example, found that 4-5 year-olds understand less than half the factual statements in a three-minute educational program for children, and Poulos[7] found that 5-7 year-olds understood only

38% to 67% of the information in a 30-second pro-social commercial message. Yet, as Williams[8] points out, there have been very few studies of the information processing abilities of children under the age of eight. This restriction in the age range studied may be due to a formidable methodological problem: the difficulty some children have in verbalization.[9] Nevertheless, fruitful directions for the study of how visual processes relate to learning can be found in the attempt to apply cognitive development theory to children's perception and comprehension of television programming. An obvious starting place would be an attempt to relate general developmental theories of how children understand causality, time, space and sequence[10] to investigations of the symbolic capacities of children, particularly in relation to the screen media. Wackman and Wartella,[11] for instance, have begun this task by invoking Piaget's[12] developmental paradigm to account for age differences in children's understanding of television content: with development, children become more facile at inter-modal processing, that is, they become better able to integrate visual and sound units as they develop temporal integration ability. A Piagetian information-processing approach to assessing children's learning from television is already attracting the attention of a growing number of media researchers.[13]

In the Piagetian scheme of child development, children enter the stage of "concrete operations" around age 9. They now develop the ability to shift between their own views and those of others, which typically facilitates an identification with programs in which characters act heroically in various ways.[14] Younger children, however, are still at the "pre-operational" stage of cognitive development, which is characterized by ego-centric thinking.[15] The purpose of this paper is to explore whether the critical stage of pre-operational thought parallels certain abilities in the development of viewing skills. Specifically, our aim is to investigate the information processing abilities of young children and attempt to specify what kinds of visual literacy skills are evolving between the ages of 4 and 8.

How children exercise selective attention when confronted with complex audiovisual stimuli is of central importance. The typical pattern is an increase in the learning of incidental material (those elements not essential to the narrative sense of a program) up to Grade Six, followed by a decrease after this.[16] The decrease is presumably caused by older children's ability to disregard non-essential

information, to exercise selective attention in noting only the broad features of a narrative and thus to process information more efficiently. The broad features of a narrative can appear extremely complicated to a young child, however. What skills do very young children possess for comprehending portrayals of social roles, attitudes and behaviors in programs which are produced primarily with the cognitive capabilities of adults in mind? Plots in such programs are usually subtle, implicit and interspersed with other narrative material that is tangentially relevant. Cues like motives and consequences, for example, often are separated in time from each other and from the actions they qualify.[17]

Consider the difficulties. A viewer is presented with the task of synthesizing and disambiguating a vast array of discretely-presented bits of information across time, to infer relationships among them. The viewer must make inferences that go beyond what has been explicitly presented in the stimulus. It might have to be inferred, for example, that a certain action has occurred because of an actor's motive, which was hinted at many minutes earlier in an emotional context that may also have to be inferred from a variety of verbal or non-verbal bits, and that the consequences were indeed the result of both the action and the motivation. If children of a certain age do not have the skills for parsing programs heavy with implicit information, this increases the probability that they will not be able to interpret socially relevant portrayals (like anti-social violence) in terms of their accompanying motives and consequences. This would leave the depicted portrayal to stand alone as a model, affecting children in ways that would not be readily predicted.[18] If children of different ages perceive television fiction in different ways, the attitudinal and behavioral effects of programs are likely to vary accordingly. It would seem, therefore, that children's comprehension skills are pertinent to understanding the impact of adult programming on children.

Most of the studies of children's abilities to comprehend television content concentrated on an age range from 8 years up to adolescence. Collins[19] speculates that important qualitative changes occur earlier in development and that the second-graders' skills examined in his study represent a transition from earlier developmental states: "This hypothesis cannot be evaluated without data from younger children, who have not been included in the research program

thus far because the markedly different procedures needed to test them would make comparison with older groups difficult." It seems that younger children's comprehension and inference "would simply be more severely constrained by even more inefficient processing activities and poorer selective abilities than appear to characterize young grade school children."

Since one of the major drawbacks of most of the studies cited here is their lack of attention to viewers under the age of eight,[20] the present study was aimed at investigating the television viewing skills of children from kindergarten to grade two, by breaking down the categories of "central" and "peripheral" content into more precise narrative phenomena. Four fictional devices were isolated for study: the presentation of characters' emotions; the association of a cause with its effect within the plot, both when the cause and its effect are adjacent in a narrative and when they are separated by other program material; the association of the motive for an action and its consequence, again, in adjacent and in separated instances; and the depiction of two plots developing concurrently, in the classic cinematic form of parallel action. We decided to test the children's ability to process these four narrative structures as well as their ability to predict the course of a narrative from an important point in the plot, and their ability to recall the sequence of the story.

HYPOTHESES

In the absence of any significant body of research on the viewing skills of younger children, hypotheses for the present investigation were derived from studies of older children. We hypothesized that there would be a linear relationship between children's ages and six commonly-needed viewing skills: (1) the comprehension of characters' emotional states at various points in a television drama; (2) the ability to understand characters' motivations in relation to certain key actions they perform in a drama; (3) the ability to link causes with their effects within a narrative; (4) the ability to understand a bifurcated plot presented in the form of parallel action; (5) the ability accurately to predict the course of events to follow when the narrative has been interrupted at a climactic point; and (6) the ability to recall the sequence of the plot events after the whole narrative has been viewed.

A second set of hypotheses assumed a relationship between the amount of television viewed by children and the development of their visual literacy skills. It is usually assumed that the impact of television is linear, that is, the more children watch, the more they learn. Salamon,[21] for instance, cites evidence suggesting that as amount of viewing increases, skill-mastery improves in the service of better knowledge extraction. This is consistent with the widespread belief that literacy skills in any medium are increased by exposure to that medium. A parallel assumption is that there will be a positive correlation between the extent of parents' exposure to a medium and the development of literacy skills in their children. Research indicates fairly clearly that there are complex links between family variables and the impact of television on children.[22]

The possibility of a connection between amount of television viewing within the family and the acquisition of viewing skills by children is relevant to development of a theory of visual literacy. Does massive exposure to television hasten the development of information extraction skills, as a learning paradigm would suggest? Or do the symbol systems of television constitute a language which, once understood by a viewer, can be utilized to decode any televisual message, as a competence paradigm would suggest?[23] The answers to these questions have practical implications for the teaching of viewing skills as well as theoretical implications for our understanding of the semiotic systems of screen media.[24] Accordingly, a second set of hypotheses predicted a positive relationship between the amount of television viewed by both parents and children, and the children's performance on the six tasks presented above.

METHOD

Approximately 100 questionnaires were distributed to parents having children in K, G 1 and G 2 classes in a medium-sized Mid-Western Elementary school. These questionnaires contained over 50 questions on home-use of television . About 60 were completed and returned. Then the second phase of the study was initiated: a videotape of a 60-minute television drama was edited, with the aid of the script, down to a 30-minute version which simplified the main plot and eliminated two of the sub-plots. A shortened

version was obtained which contained only two plots, widely separated in theme, characterization and geographical location but linked by the technique of parallel editing[1]. In the last quarter of the drama, just before the climax of the action, 10 seconds of black were inserted, which the experimenter would later use as a convenient place to stop the tape and ask subjects to predict what would happen next. Finally, ten still shots of key events in both parts were made. These would be used to test subject's ability to recall the sequence of events in the program.

Forty four subjects from K (15), G 1 (14) and G 2 (15), with an average age of almost 6½ years, were tested on three different days, using the volunteered services of student assistants from an undergraduate media course. Each child viewed the videotape with one assistant who recorded all responses on audio cassette. When the tape was stopped before the climax, each child was asked to predict what was going to happen next. At the end of the tape, each child answered 29 questions concerning the story. Finally, they were asked to arrange the 10 still pictures so that they matched the sequence of the program and could be used to retell the story. The picture arrangement was also recorded on audio cassette.

At the completion of the experiment, all children's responses were transcribed from the audio cassettes and rated by the experimenter on a 0 - 3 scale. Two other assistants, who were not involved in the experiment, also rated a sample of the children's responses and inter-rater reliability was found to be reasonably high ($r = .68$; $r = .73$).

In order to test the hypotheses proposed in this investigation, a series of Pearson r correlation coefficients were computed for each combination of variables we intended to explore. Thus, correlation coefficients were computed for each of the items pertaining to viewer skills. The amount of television viewing by parents was then

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[1] This was an old "Waltons" episode in which one of the sons faces danger as a GI in Germany on the last day of World War II, while back on Walton's Mountain, the family adjusts to war and victory.

correlated with each of the six viewing skills. Finally, amount of television viewing by children was correlated with each of the six viewing skills. The statistical significance of each correlation was next determined and the magnitude of the correlation was also considered in out interpretation of results: correlations had to be statistically significant and at least "moderate" in magnitude for further interpretation and discussion. An alpha level of $p<.05$ was set for all tests.

RESULTS

This study failed to show a significant relationship between ages of children and their understanding of characters' emotions. It also failed to show a significant relationship between age and the ability to understand motivations, except when motives were widely separated in the narrative from their corresponding actions. In these cases, there were significant positive correlations with age ($r = .57$, $p<.01$). This indicates a substantial relationship between age and skill in relating a motive presented early in the narrative with an action presented near the end. In 5 of the 7 items measuring comprehension of causation, there was a definite but small relationship between skill and age. But unlike motivation, there was no evidence that age is strongly correlated with the ability to link a cause with its effect when they are widely separated.

One of the three items used to measure a child's ability to comprehend parallel action was strongly associated with age ($r = .44$; $p<.01$). However, in the case of the other two items, this study failed to uncover a significant relationship between age and interpreting parallel action. A low correlation ($r = .35$; $p<.05$) was found between age and the ability to predict future action when the narrative was interrupted. Low correlations were also found ($r = .32$; $p<.05$) between age and the ability to recall the sequence of the narrative by arranging still pictures.

No significant patterns of correlations were uncovered between the amount of television viewed by children and their performance in the 6 tests examined. Thus our hypotheses were not supported. However, the analysis did reveal a relatively strong and important pattern of negative correlations between the amount of television

viewed by parents and their children's comprehension levels. That is, the more the parents viewed television, the lower their children's comprehension levels! The results were strongest in terms of the relationships between adult TV viewing and children's ability to understand characters' emotions ($r = -.41$; $p < .01$) and characters' motives ($r = -.54$; $p < .01$).

DISCUSSION

The most interesting finding here is the pattern of negative correlations between parents' viewing and children's comprehension skills. Not only is the number of hours of television viewed by parents a better predictor of performance on comprehension tasks than the amount of television viewed by the children themselves, but the obvious implication is that the more parents watch television the worse their children will perform. This is evident especially in two areas of comprehension in which it would be expected that children dominated by the egocentric thinking characteristic of pre-operational cognitive development would have greatest difficulty: understanding the feelings and motivations of fictional characters. In terms of the stimulus material also, it can be assumed that feelings and motivations are among the most difficult parts of a narrative to be grasped by a young viewer, embedded as they are in a variety of subtle verbal and visual cues. Synthesizing these cues implies the ability to make inferences that go beyond what has been explicitly presented on the screen. The absence of significant correlations between children's viewing and their skill level, therefore, does not contradict Salomon's[25] evidence for a link between skill-mastery and amount of viewing: he was examining the skills needed for learning from "Sesame Street" rather than those needed for decyphering emotions and motivations in a drama not specifically produced for children. The existence of strong negative correlations with parents' viewing, however, demands further examination.

Why does it seem that the more parents view television the less their children understand of feelings and motivations in fictional narrative? The most likely explanation is that the skills needed to understand character emotions and motivations are skills of inter-personal relationships, which in the case of young children at least,

must be learned from interactions with parents rather than with television drama. In households where parents (and children) spend many hours viewing television, there may be a decrease in children's social learning, which in turn decreases their ability to understand feelings and motives in drama.

One implication here is vital: the common assumption that children learn to decipher the subtleties of adult drama from repeated exposure to it is erroneous. An alternative explanation must be given serious consideration: Children disambiguate dramatic cues in television programs by bringing to the viewing experience skills which have been learned from observation and interaction within the family, especially the skills needed to understand how people feel in a variety of real-life situations and what their motives might be in relation to a variety of real-life behaviors. The more time parents and children spend in front of the television screen (and this study found a high positive correlation between amount of television viewed by parents and their children), the less time is available for real-life interactions within the family, which in turn impoverishes the children's interaction with fictional characters on television.

More research is obviously needed before firm conclusions along these lines can be made. Particularly, more information is needed on the kinds of television programming typically viewed in heavy-viewing households and whether this content facilitates or hinders the development of social skills. The present study, for instance, found a moderate positive correlation ($r = .42$; $p < .01$) between the amount of television parents viewed and the amount of televised sports viewed by their children. This would suggest a substantial relationship between heavy viewing by parents and children's viewing of a particular genre of programming in which it can be assumed that interpersonal interaction is not as salient as in narrative fiction, thus further limiting young children's ability to learn interpersonal skills.

Why are the postulated age-relationships not supported more strongly by this study? Findings on older children's comprehension of television narratives are dominated by age-related trends. For instance, when children were presented with a randomly-ordered sequence of still pictures, correct recall of scene order was a linear function of grade level,[27] though only those older than G2 were able to specify causal relationships more explicitly and correctly.

One explanation is the difficulty of working with very young children and anticipating all the problems thay may have with the test materials. A reexamination of the 7 items measuring comprehension of causation, for instance, reveals that of the 2 showing no correlation with age, one was presented in a linguistic form probably too advanced for children of this age and the other assumed knowledge of the world, beyond what was presented in the narrative, that young children would be unlikely to have. Reexamination of the 3 items used to measure the children's ability to comprehend parallel action reveals that although one was strongly associated with age, the other two were at the very end of a battery of 30 questions and many children were tired and irritable at this point in the experiment.

Besides such practical problems there may be another explanation for the absence of age-related correlations. It was assumed that skill in decoding television fiction was linear, that is, that older children within the age range studied (which corresponds to the Piagetian pre-operational stage of cognitive development), it may be that change in viewing skills does not happen incrementally but in cognitive leaps to a new developmental stage. Measurable improvements in viewing skills may not take place until children mature into the stage of "concrete operations" around age 7. Further research is needed to elucidate this possibility.

Although the ability to recall narrative sequence does not seem to be significantly age-related for this group of children, they consistently recalled the second half of the narrative better than the first (a mean score of 1.61 compared to .72 on a 0-3 scale). This contradicts the finding of Vernon[27] that the first half of a television program is best recalled, possibly because producers typically present the most interesting material at the beginning. It must be pointed out, however, that a fictional narrative has a very different structure to the instructional programs Vernon used. Motivations for actions are typically concentrated in the first half of a narrative and consequences in the second half. In fact, the finding of this study is in agreement with Collins, Berndt and Hess[28] who suggested that children learn consequences before motives. Whether young children are more aware of consequences of motives first is relevant to the question of when they are able to comprehend the

"moral of the story" and the negative consequences depicted for aggression and other anti-social behavior. Hartmann,[27] for instance, has demonstrated how exposure to the consequences of violence in television narratives can reduce the aggressive behavior of viewers.

CONCLUSION

Exploring the relationship between cognitive development and media literacy is important because it seems that cognitive development sets limits on children's comprehension of the content of television, which in turn can determine whether children will have inhibitions against imitating behavior seen on television. It is clear from this and other studies that much of what is portrayed on television is not understood by young children. This study suggests it is imperative that family variables be taken into account as well as developmental and medium variables, that is, family background can be regarded as a set of variables which mediate between content and effects. For researchers, such an orientation leads to specific questions which as yet have no answers. How is the effects process mediated by the intervention of parental variables, especially parental patterns of television use? How do families use television? How are decisions about television made within the family? How do those decisions affect other patterns of communication within the family and how do those new patterns in turn affect a child's interaction with television?

The most general and perhaps most significant result implied by this study, and supported by interviews with individual children, is that very young children take away from a television program not only a less-than-complete understanding of the drama but a very "different" perception of it, based on the retention of an idiosyncratic, yet (for them) coherent set of fictional cues. This is consistent with the conclusion of previous studies[30] (Collins, 1970; Collins et al., 1978; Hagen & Hale, 1973) that until children reach Junior High School age, their knowledge of nonessential information in televised presentations matches their knowledge of essential information, thus interfering with their ability to focus on what is important in the plot and ignore what is unimportant.

A developmental approach in future research would not only stress how children perceive the form and content of television but would also try to establish developmental levels in children's symbolic capacities, that is, the particular stages at which certain types of television understanding evolve in tandem with the emergence of abilities to extract information from other kinds of coded messages. This study, for instance, raises the possibility that the egocentrism characteristic of the pre-operational stage of cognitive development may inhibit the young child's ability to grasp the "other" in fictional characters presented on television.

A developmental research approach would greatly illuminate the process whereby children decode audio-visually presented information and acquire visual literacy. Age-related effects in comprehending televised narratives may be due to younger children possessing less adequate "grammars of meaning" than older children. Also, a developmental approach is likely to have practical relevance in visual literacy programs. Parents or teachers might influence viewing strategies, for example, by deliberately attempting to induce younger children to infer the intentionality or emotion or motivation of fictional events and characters and ask the implicit questions that appear to be spontaneous in older children's viewing behavior.

Likewise, efforts could be made to increase children's literacy in the techniques of the medium, by elucidating the significance of such filmic codes as slow motion, parallel action or dissolves. Such adult intervention may have valuable remedial value where variance in the social impact of television is caused by incomplete or distorted comprehension of what children see. In such situations, comprehension difficulties may affect which parts of a fictional narrative are retained by children and so are available to modulate the impact on them of socially relevant portrayals like anti-social violence.

FOOTNOTES

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[3]J.H. Watt & R. Krull, "An Examination of Three Models of Television Viewing and Aggression." Human Communication Research 3(1977), 99-112.

[4]See Collins, 1973.

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[17]Collins, 1973.

[18]Collins et. al. 1979. p. 23.

[19]Ibid p. 37.

[20]Williams, p. 186.

[21]G. Salomon. "Cognitive Skill Learning Across Cultures." Journal of Communication 26 (1976), 138-145.

[22]See Von Ferlitzen.

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[23]Noam Chomsky, Aspects of a Theory of Syntax (Cambridge: M.I.T. Press, 1965).

[24]Farrel Corcoran "Processing Information From the Screen Media: A Psycholinguistic Approach." Educational Communication & Technology Journal, 28 (1981), 243-266.

[25]See Salomon, 1976.

[26]Collins, Wellman, Keniston, & Westby, 1978.

[27]See M.D. Vernon, "Perception & Understanding of Instructional TV Programs," British Journal of Psychology 44 (1953), 116-126.

[28]Collins, Bennett, & Hess.

[29]D. Hartmann, The Influence of Symbolically Modelled Instrumental Aggression and Pain Cues on the Disinhibition of Aggressive Behavior. Unpublished doctoral dissertation. Stanford University, 1964.

[30]See Collins, 1970; Collins et. al. 1978.